

Date: Thursday, 6/29/2006 8:27:55 AM  
 User: Kim Johnston

## Process Sheet

Customer : CU-DAR001 Dart Helicopters Services Drawing Name : SADDLE FITTING, FWD (OUTBOARD/INBOARD)  
 Job Number : 27761  
 Estimate Number : 10530  
 P.O. Number : N/A Part Number : D2571  
 This Issue : 6/29/2006 S.O. No. : N/A Drawing Number : D2571 REV E  
 Prsht Rev. : NC Project Number : N/A  
 First Issue : N/A Type : MACHINED PARTS Drawing Revision : E  
 Previous Run : 27056 Material : N/A  
 Written By : SEE COMMENT BELOW Due Date : 7/15/2006 Qty: 16 Um: Each  
 Checked & Approved By : 06/06/06  
 Comment : Est: 1 02.10.02 Re-format; Change to Dwg Rev. D & incorporated D2572KJ

## Additional Product

Job Number:



Seq. #: Machine Or Operation: Description :

1.0 D6101007 7075-T7351 8.25X7.75X2.5



Comment: Qty.: 1.0000 Each(s)/Unit Total : 16.0000 Each(s)

7075-T7351 8.25X7.75X2.5

Make from D6101-007 billet for D2571

Ensure that grain is along 7.75" length

Batch No: ✓

1523491 x 16 x 1

J.G /EP 06/07/18 x 16

2.0 HAAS1 HAAS CNC VERTICAL MACHINING #1



Comment: HAAS CNC VERTICAL MACHINING #1

Program Batch No. 377461 Double check by: MS 06/07/18

1-Machine Step No 1 per Folio FA051 and inspect per attached Dimension Sheets

2-Machine Step No 2 per Folio FA051 and inspect per attached Dimension Sheets

3-Machine Step No 3 per Folio FA051 and inspect per attached Dimension Sheets

4-Deburr and remove all machining marks

5-Tumble to remove sharp edges.

PTD

J.G /EP 06/07/18 x 16

3.0 MILLING CONV. CONVENTIONAL MILLING MACHINE



Comment: CONVENTIONAL MILLING MACHINE

Machine keyway as per dwg D2571 & D2572

J.G /EP 06/07/18 x 16

4.0 QC2 INSPECT PARTS AS THEY COME OFF MACHINE



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

J.G /EP 06/07/18 x 16

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector

NCR: 27761		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			
060710	2	Saddle-to-skid tube holes offset to one side 0.500 dimension is 0.475	UP 060710 per QSI 1472	SCRAP - destroy Ref DS email replace.	Er 060714	2 060713	UP 06.07.10 per QSI 1472	2 060713

Part No: D2571 PAR #: N/A Fault Category: PRD - CNC NCR: Yes No DQA: HA Date: 06.07.20  
 NOTE: Date & initial all entries QA: N/C Closed: HA Date: 06.07.20

Date: Thursday, 6/29/2006 8:27:56 AM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: SADDLE FITTING, FWD (OUTBOARD/INBOARD)

Job Number: 27761

Part Number: D2571

Job Number:



Seq. #:

Machine Or Operation:

Description :

5.0

QC8

SECOND CHECK



Comment: SECOND CHECK

SA 06.07.18

6.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Acid etch and Alodine as per QSI 005 4.1

SAD 06.07.18

(16)

7.0

POWDER COATING

POWDER COATING



Comment: POWDER COATING

Powder Coat White Gloss (Ref: 4.3.5.1) as per QSI 005 4.3

SC 06/07/19 (16)

8.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT

SA 6/7/20 (16)  
Q.M. 06-07-18

(16)

9.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: - 342

SA 6/7/20 (16)

10.0

DC

DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Inspection Level 21

SA 06.07.20

Job Completion



W 06.07.20

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

NOTE: Date & initial all entries

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

<b>DART AEROSPACE LTD</b>	<b>Work Order:</b>	<b>27761</b>
<b>Description: Saddle, Fwd Outboard</b>	<b>Part Number:</b>	<b>D2571</b>
<b>Inspection Dwg: D2571 Rev. E</b>		<b>Page 1 of 1</b>

Inspect dimensions highlighted on inspection sheet drawing D2571 Rev. E and record below:

				Recorded Actual Dimensions				By	Date
Dim	Min	Max	Go/No Go Gauge	1	2	3	4		
A	0.438	0.443	DT8682	0.441	0.441	0.441	0.441		
B	1.745	1.755		1.748	1.747	1.747	1.745		
C	3.495	3.505		3.496	3.496	3.497	3.499		
D	1.745	1.755		1.748	1.747	1.747	1.746		
E	7.990	8.010		7.993	7.996	7.998	7.997		
F	0.490	0.510		0.493	0.494	0.495	0.499		
G	0.257	0.262	DT8683	0.259	0.259	0.259	0.259		
H	0.375	0.380	DT8684	0.377	0.377	0.377	0.377		
I	0.490	0.510		0.492	0.493	0.494	0.495		
J	1.174	1.184		1.175	1.177	1.177	1.180		
K	0.558	0.578		0.560	0.561	0.562	0.563		
L	1.174	1.184		1.175	1.175	1.178	1.178		
M	1.490	1.500		1.493	1.494	1.495	1.494		
N	2.495	2.505		2.498	2.497	2.498	2.499		
O	3.869	3.879		3.873	3.872	3.871	3.872		
P	0.115	0.135		0.126	0.127	0.126	0.127		
Q	0.115	0.135		0.135	0.135	0.135	0.135		
R	0.240	0.260		0.253	0.254	0.254	0.255		
S	0.115	0.135		0.118	0.119	0.120	0.121		
T	0.178	0.198		0.188	0.188	0.188	0.188		
U	2.940	2.980		2.960	2.961	2.960	2.961		
V	0.230	0.250		0.236	0.237	0.236	0.237		
W	0.115	0.135		0.115	0.118	0.118	0.119		
X	0.308	0.313		0.310	0.310	0.310	0.310		
Y	0.760	0.765		0.765	0.765	0.765	0.765		
Z	0.352	0.372		0.367	0.364	0.364	0.365		
AA	0.470	0.530		0.520	0.520	0.520	0.520		
AB	0.615	0.635		0.623	0.624	0.624	0.624		
AC	0.053	0.073		0.063	0.063	0.063	0.063		
AD	0.240	0.260		0.244	0.244	0.243	0.242		
AE	1.375	1.395		1.388	1.385	1.385	1.386		
AF	0.115	0.135		0.135	0.135	0.135	0.135		
AG	0.240	0.280		0.260	0.260	0.260	0.260		
AH	0.240	0.260		0.249	0.248	0.247	0.247		
AI	2.000	2.020		2.003	2.000	2.000	2.000		
AJ	0.023	0.043		0.030	0.030	0.030	0.030		
Accept/Reject									

Measured by:	En / S.G
Date:	06/07/10

Audited by:	SD
Date:	06.07.13

Rev	Date	Change	Revised by	Approved
A		New Issue	RF	
B	02.09.24	Re-format; Added Rev. D	KJ	
C	02.10.11	Re-format; Added DT8682, DT8683, DT8684	KJ	
D	05.05.05	Added dimension AI	KJ/RF	
E	05.12.05	Added dimension AJ	KJ/JLM	

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<b>Description:</b> Saddle, Fwd Outboard	<b>Part Number:</b> D2571
<b>Inspection Dwg:</b> D2571 Rev. E	<b>Page 1 of 1</b>

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B	1.745	1.755		1.748	1.747	1.747	1.745		
C	3.495	3.505		3.499	3.498	3.497	3.498		
D	1.745	1.755		1.747	1.748	1.749	1.745		
E	7.990	8.010		8.001	8.000	8.000	8.001		
F	0.490	0.510		0.499	0.498	0.497	0.499		
G	0.257	0.262	DT8683	0.258	0.258	0.258	0.258		
H	0.375	0.380	DT8684	0.376	0.376	0.376	0.376		
I	0.490	0.510		0.498	0.497	0.498	0.495		
J	1.174	1.184		1.179	1.180	1.179	1.175		
K	0.558	0.578		0.569	0.568	0.567	0.559		
L	1.174	1.184		1.178	1.180	1.178	1.175		
M	1.490	1.500		1.498	1.497	1.496	1.495		
N	2.495	2.505		2.501	2.494	2.497	2.497		
O	3.869	3.879		3.872	3.871	3.871	3.867		
P	0.115	0.135		0.120	0.121	0.120	0.126		
Q	0.115	0.135		0.124	0.124	0.121	0.135		
R	0.240	0.260		0.249	0.250	0.248	0.253		
S	0.115	0.135		0.130	0.131	0.129	0.125		
T	0.178	0.198		0.188	0.188	0.188	0.188		
U	2.940	2.980		2.961	2.960	2.961	2.960		
V	0.230	0.250		0.241	0.242	0.241	0.238		
W	0.115	0.135		0.130	0.130	0.130	0.119		
X	0.308	0.313		0.310	0.310	0.310	0.310		
Y	0.760	0.765		0.761	0.761	0.761	0.761		
Z	0.352	0.372		0.364	0.365	0.365	0.360		
AA	0.470	0.530		0.500	0.500	0.500	0.500		
AB	0.615	0.635		0.623	0.624	0.621	0.626		
AC	0.053	0.073		0.063	0.063	0.063	0.063		
AD	0.240	0.260		0.256	0.249	0.248	0.244		
AE	1.375	1.395		1.384	1.385	1.384	1.385		
AF	0.115	0.135		0.130	0.129	0.128	0.135		
AG	0.240	0.280		0.260	0.250	0.247	0.260		
AH	0.240	0.260		0.248	0.247	0.246	0.248		
AI	2.000	2.020		2.000	2.001	2.003	2.002		
AJ	0.023	0.043		0.033	0.033	0.033	0.033		
Accept/Reject									

Measured by: S.G/Er
Date: 06/07/13

Audited by: SD
Date: 06.07.13

Rev	Date	Change	Revised by	Approved
A		New Issue	RF	
B	02.09.24	Re-format; Added Rev. D	KJ	
C	02.10.11	Re-format; Added DT8682, DT8683, DT8684	KJ	
D	05.05.05	Added dimension AI	KJ/RF	
E	05.12.05	Added dimension AJ	KJ/JLM	

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C	3.495	3.505		3.500	3.497	3.495	3.495		
D	1.745	1.755		1.745	1.745	1.746	1.746		
E	7.990	8.010		8.002	8.002	8.001	8.002		
F	0.490	0.510		0.498	0.496	0.496	0.493		
G	0.257	0.262	DT8683	0.259	0.259	0.259	0.259		
H	0.375	0.380	DT8684	0.377	0.377	0.377	0.377		
I	0.490	0.510		0.497	0.494	0.496	0.496		
J	1.174	1.184		1.176	1.176	1.175	1.178		
K	0.558	0.578		0.564	0.564	0.560	0.560		
L	1.174	1.184		1.176	1.176	1.175	1.178		
M	1.490	1.500		1.491	1.494	1.492	1.496		
N	2.495	2.505		2.495	2.499	2.497	2.497		
O	3.869	3.879		3.869	3.873	3.869	3.872		
P	0.115	0.135		0.126	0.126	0.123	0.125		
Q	0.115	0.135		0.135	0.135	0.135	0.135		
R	0.240	0.260		0.253	0.253	0.252	0.252		
S	0.115	0.135		0.127	0.126	0.124	0.127		
T	0.178	0.198		0.188	0.188	0.188	0.188		
U	2.940	2.980		2.960	2.960	2.960	2.960		
V	0.230	0.250		0.235	0.243	0.237	0.239		
W	0.115	0.135		0.125	0.121	0.122	0.123		
X	0.308	0.313		0.310	0.310	0.310	0.310		
Y	0.760	0.765		0.765	0.765	0.765	0.765		
Z	0.352	0.372		0.363	0.363	0.360	0.365		
AA	0.470	0.530		0.500	0.500	0.500	0.500		
AB	0.615	0.635		0.625	0.622	0.628	0.629		
AC	0.053	0.073		0.063	0.063	0.063	0.063		
AD	0.240	0.260		0.245	0.248	0.246	0.246		
AE	1.375	1.395		1.385	1.384	1.385	1.386		
AF	0.115	0.135		0.135	0.135	0.135	0.135		
AG	0.240	0.280		0.260	0.260	0.260	0.260		
AH	0.240	0.260		0.247	0.251	0.248	0.248		
AI	2.000	2.020		2.000	2.000	2.000	2.000		
AJ	0.023	0.043		0.030	0.030	0.030	0.030		
Accept/Reject									

Measured by:	EP
Date:	06/07/14

Audited by:	SD
Date:	06.07.14

Rev	Date	Change	Revised by	Approved
A		New Issue	RF	
B	02.09.24	Re-format; Added Rev. D	KJ	
C	02.10.11	Re-format; Added DT8682, DT8683, DT8684	KJ	
D	05.05.05	Added dimension AI	KJ/RF	
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<b>DART AEROSPACE LTD</b>	<b>Work Order:</b>	27761
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K	0.558	0.578		0.568	0.569	0.569	0.568		
L	1.174	1.184		1.180	1.180	1.179	1.179		
M	1.490	1.500		1.501	1.501	1.502	1.501		
N	2.495	2.505		2.498	2.497	2.498	2.497		
O	3.869	3.879		3.874	3.874	3.873	3.873		
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U	2.940	2.980		2.960	2.960	2.960	2.960		
V	0.230	0.250		0.240	0.242	0.241	0.240		
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Y	0.760	0.765		0.765	0.765	0.765	0.765		
Z	0.352	0.372		0.364	0.363	0.362	0.364		
AA	0.470	0.530		0.520	0.520	0.520	0.520		
AB	0.615	0.635		0.624	0.623	0.628	0.628		
AC	0.053	0.073		0.063	0.063	0.063	0.063		
AD	0.240	0.260		0.250	0.249	0.248	0.247		
AE	1.375	1.395		1.385	1.385	1.386	1.388		
AF	0.115	0.135		0.135	0.135	0.135	0.135		
AG	0.240	0.280		0.260	0.260	0.260	0.260		
AH	0.240	0.260		0.248	0.247	0.246	0.247		
AI	2.000	2.020		2.000	2.000	2.001	2.000		
AJ	0.023	0.043		0.030	0.030	0.030	0.030		
Accept/Reject									

Measured by:	JG
Date:	06/07/15

Audited by:	SD
Date:	06.07.15

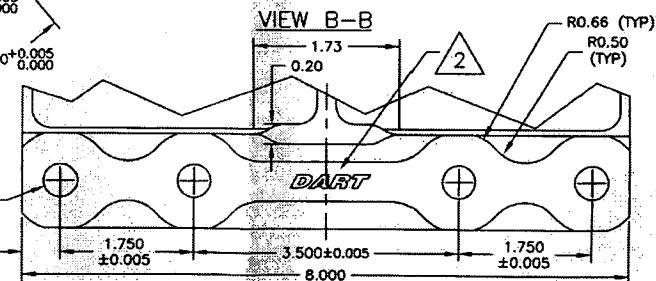
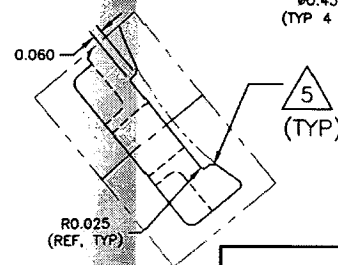
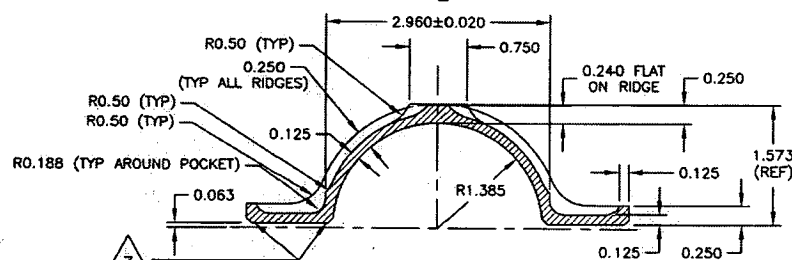
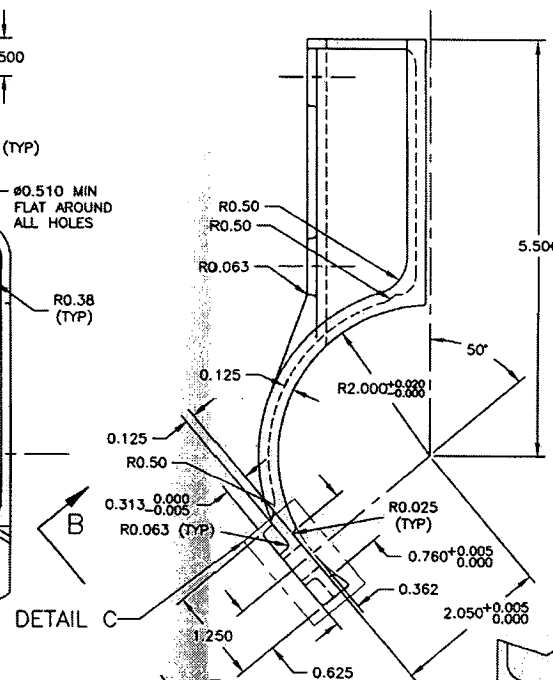
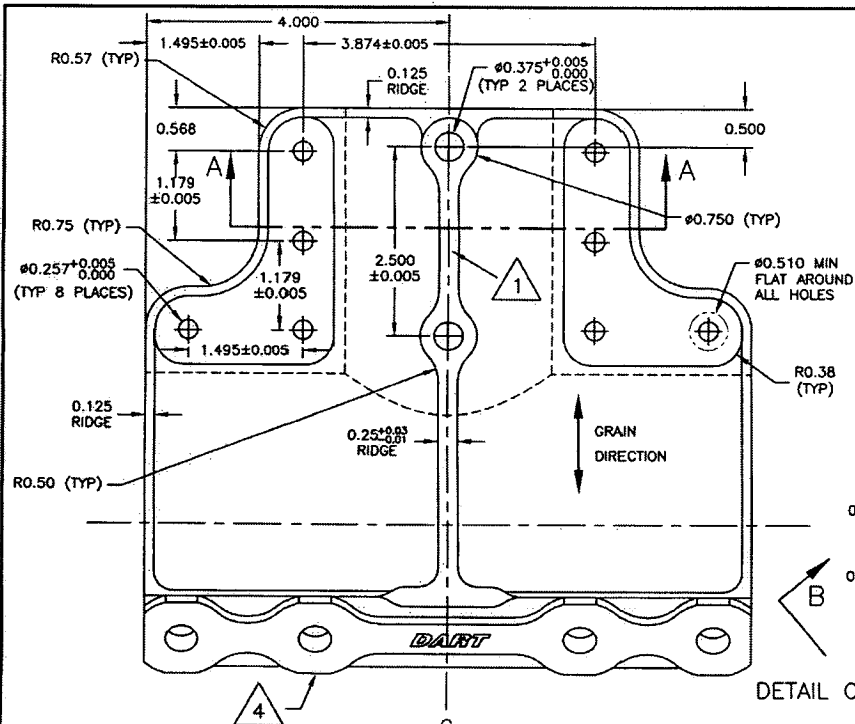
Rev	Date	Change	Revised by	Approved
A		New Issue	RF	
B	02.09.24	Re-format; Added Rev. D	KJ	
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D	05.05.05	Added dimension AI	KJ/RF	
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



05.12.06 

MATERIAL: 7075-17351 (QQ-A-250/12) (REF DART SPEC. D6102-001)  
FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1  
POWDER COAT GLOSS WHITE (REF 4.3.5.1) PER DART  
QSI 005 4.3  
BREAK ALL SHARP EDGES 0.010 TO 0.020  
TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

- 1 ENGRAVE PART AND BATCH NUMBER IN THIS AREA TO MAX DEPTH OF 0.010
- 2 ENGRAVE DART LOGO TO MAX DEPTH OF 0.015 WITH MIN RAD 0.125
- 3 CHAMFER 0.063" x 45° AROUND THIS SURFACE (TYPICAL 2 PLACES)
- 4 CHAMFER 0.063" x 45° ALL AROUND
- 5 CHAMFER 0.033" x 45° (SEE DETAIL C)

$$\triangle E$$


E	05.07.13	ADD CHAMFER ON RIDGE, NOTE 5
D	02.09.06	ADD RIDGES; TIGHTEN TOLERANCES
C	99.10.22	INCORP. DEO 9123/9079/9102 ADD DIMENSIONS PER TSR A1177
B	96.12.02	ADD GRAIN DIR., 0.438 WAS 0.425
A	96.09.16	NEW ISSUE
DESIGN DS	DRAWN BY PH	 <b>DART AEROSPACE LTD.</b> MARKHAM, ONTARIO, CANADA
CHECKED 	APPROVED 	DRAWING NO. <b>D2571</b>
DATE 05.07.13	TITLE OUTER FWD SADDLE	

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WORK ORDER  
NO. 27761

## Chris Provencal

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**From:** David Shepherd [dshepherd@dartaero.com]

**Sent:** July 10, 2006 2:25 PM

**To:** 'Chris Provencal'

**Subject:** RE: NCR 205 Saddles

I agree. Scrap them.

David

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**From:** Chris Provencal [mailto:cprovencal@dartaero.com]

**Sent:** Monday, July 10, 2006 11:30 AM

**To:** David Shepherd (David Shepherd)

**Cc:** 'Serge Shahbazian'

**Subject:** NCR 205 Saddles

David:

D2572 Saddle, the saddle-to-skidtube holes are offset 0.016" to one side.

D2571 Saddle, the saddle-to-skidtube holes are offset 0.025" to one side.

I would be tempted to scrap them, at least the 0.025" one because I know how hard it is already to assembly the bushings into the saddles and have everything line up.

-Chris

10/07/2006